

2

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/517,052
Source: PGT/10
Date Processed by STIC: 12/17/04

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PCT

RAW SEQUENCE LISTING

DATE: 12/17/2004

PATENT APPLICATION: US/10/517,052

TIME: 16:06:40

Input Set : A:\sequence listing-biomay.txt

Output Set: N:\CRF4\12172004\J517052.raw

3 <110> APPLICANT: Biomay Produktions- und Handels-Aktiengesellschaft
 5 <120> TITLE OF INVENTION: Allergenic protein from mugwort pollen
 7 <130> FILE REFERENCE: Allergenic protein from mugwort pollen
 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/517,052
 C--> 10 <141> CURRENT FILING DATE: 2004-12-03
 12 <160> NUMBER OF SEQ ID NOS: 10
 14 <170> SOFTWARE: PatentIn Ver. 2.1
 16 <210> SEQ ID NO: 1
 17 <211> LENGTH: 396
 18 <212> TYPE: PRT
 19 <213> ORGANISM: Artemisia vulgaris
 21 <400> SEQUENCE: 1
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 23 1 5 10 15
 25 Val Gly Ala Ala Ala Arg Ala Asp Ile Gly Asp Glu Leu Glu Ala Ala
 26 20 25 30
 28 Gln Phe Asn Ser Thr Arg Arg Gly Leu His Glu Cys Ala Ala His Asn
 29 35 40 45
 31 Ile Ile Asp Lys Cys Trp Arg Cys Lys Ala Asp Trp Glu Lys Asn Arg
 32 50 55 60
 34 Gln Ala Leu Ala Lys Cys Ala Gln Gly Phe Ala Lys Gly Thr Thr Gly
 35 65 70 75 80
 37 Gly Leu Gly Gly Glu Ile Tyr Val Val Thr Asp Cys Ser Asp Asp Asn
 38 85 90 95
 40 Ala Ala Asn Pro Lys Pro Gly Thr Leu Arg Cys Gly Val Thr Gln Asp
 41 100 105 110
 43 Lys Pro Leu Trp Ile Ile Phe Lys Lys Asp Met Val Ile Lys Leu Lys
 44 115 120 125
 46 His Glu Leu Val Ile Asn Lys Asp Lys Thr Ile Asp Gly Arg Gly Ala
 47 130 135 140
 49 Asn Val Glu Ile Thr Cys Gly Gly Leu Thr Ile His Asn Val Cys Asn
 50 145 150 155 160
 52 Val Ile Ile His Asn Ile His Ile His Asp Ile Lys Val Thr Glu Gly
 53 165 170 175
 55 Gly Ile Ile Lys Ala Thr Asp Ala Lys Pro Gly His Arg His Lys Ser
 56 180 185 190
 58 Asp Gly Asp Gly Ile Cys Val Ala Gly Ser Ser Lys Ile Trp Ile Asp
 59 195 200 205
 61 His Cys Thr Leu Ser His Gly Pro Asp Gly Leu Ile Asp Val Thr Leu
 62 210 215 220
 64 Gly Ser Thr Ala Val Thr Ile Ser Asn Cys Lys Phe Ser His His Gln
 65 225 230 235 240
 67 Lys Ile Leu Leu Leu Gly Ala Asp Asn Ser His Val Asp Asp Lys Lys

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68          245          250          255
70 Met His Val Thr Val Ala Phe Asn Arg Phe Ala Glu Ala Cys Asp Gln
71          260          265          270
73 Arg Met Pro Arg Cys Arg Phe Gly Phe Phe Gln Val Val Asn Asn Asp
74          275          280          285
76 Tyr Thr Ser Trp Gly Thr Tyr Ala Ile Gly Gly Ser Ala Asn Pro Thr
77          290          295          300
79 Ile Leu Ser Gln Gly Asn Arg Phe His Ala Pro Asn Asp Pro Met Lys
80 305          310          315          320
82 Lys Asn Val Leu Val Arg Ala Asp Ala Pro His Thr Glu Ser Met Lys
83          325          330          335
85 Trp Asn Trp Arg Ser Glu Lys Asp Leu Leu Glu Asn Gly Ala Ile Phe
86          340          345          350
88 Val Ala Ser Gly Cys Asp Pro His Leu Thr Pro Glu Gln Lys Ser His
89          355          360          365
91 Leu Ile Pro Ala Glu Pro Gly Ser Ala Val Leu Gln Leu Thr Ser Cys
92          370          375          380
94 Ala Gly Thr Leu Lys Cys Val Pro Gly Lys Pro Cys
95 385          390          395
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100 <212> TYPE: DNA
101 <213> ORGANISM: Artemisia vulgaris
103 <400> SEQUENCE: 2
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106 ttacacgaat gtgcagcaca taacataata gacaagtgtt ggaggtgcaa agctgattgg 180
107 gaaaaaaacc gacaagcatt agccaaatgc gcgcaagggt ttgcaaaggg aacaactggc 240
108 ggattgggag gggaaatcta cgtggtgact gattgttcag atgacaatgc tgcaaatcca 300
109 aagccaggga cacttcgttg tgggtgtcacc caagataaac ctttgtggat catctttaag 360
110 aaagatatgg tcataaaact taaacacgag cttgtgataa acaaagacaa gacaattgat 420
111 ggaagaggtg caaatgttga gatcacttgt ggcggtctca ccattcacaa cgtttgcaat 480
112 gtgatcattc ataacattca catacatgat attaaagtaa ccgaagggtg aattattaag 540
113 gcaacggacg ctaaaccagg acatagacat aagagcgacg gagatgggtat ttgtgttgct 600
114 ggttcttcaa agatatggat cgatcattgc aacttagtc atgggtccaga tggccttatt 660
115 gatgtcacgt tgggtagcac agccgttacc atttccaatt gcaaatttag ccatcaccaa 720
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119 gccaatccta ctatccttag ccaaggcaac cgattccatg ctccgaatga cccaatgaag 960
120 aaaaatgtgt tggtaggggc tgatgcacca catacagagt caatgaagtg gaattggaga 1020
121 tctgagaaag acttgtaga aaatggagct atattttag catcagggtg cgacccgcat 1080
122 ctaaccccg gacaaaaaag ccatttgatt ccagctgaac caggatcagc agttcttcaa 1140
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127 <211> LENGTH: 1188
128 <212> TYPE: DNA
129 <213> ORGANISM: Artemisia vulgaris
131 <400> SEQUENCE: 3

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132 atggaaaaaac attattttgt tatattgttc accgcagcgt ttgttttcgt ggggtgcagct 60
133 gctcgggctg acattggtga tgagctcgaa gcggtcaat ttaattcaac aaggaggggc 120
134 ttacacgaat gtgcagcaca taacataata gacaagtgtt ggaggtgcaa agctgattgg 180
135 gaaaaaaacc gacaagcatt agccaaatgc gcgcaagggt ttgcaaaggg aacaactggc 240
136 ggattgggag gggaaatcta cgtggtgact gattgttcag atgacaatgc tgcaaattcca 300
137 aagccagggg cacttcgttg tgggtgcacc caagataaac ctttgtggat catcttcaag 360
138 aaagatatgg tcataaaact taaacacgag cttgtgataa acaaagacaa gacaattgat 420
139 ggaagaggtg caaatgttga gatcacttgt ggcggtctca ccattcacia cgtttgcaat 480
140 gtgatcattc ataacattca catacatgat attaaagtaa cggaagggtg aattattaag 540
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142 ggttcttcga agatatggat cgatcattgc acacttagtc atgggtccaga tggccttatt 660
143 gatgtcacgt tgggtagcac agccgttacc atttccaatt gcaaatttag ccatcaccaa 720
144 aaaattctat tactcggagc agacaattca catgtagacg ataaaaaaat gcatgtcaca 780
145 gtcgcattca acaggttcgc agaagcatgt gatcaaagaa tgccacgatg tcgatttggg 840
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147 gccaatccta ctatccttag ccaaggcaac cgattccatg ctcccaatga cccaatgaag 960
148 aaaaatgtgt tggtaggggc tgatgcacca catacagagt caatgaagtg gaattggaga 1020
149 tctgagaaaag acttggttaga aaatggagct atattttag catcaggggt cgaccgcgcat 1080
150 ctaacccccg aacaaaaaag ccatttaatt ccagctgaac caggatcagc agttcttcaa 1140
151 ctcaccagtt gtgctggcac gctcaaatgc gttcctggaa aaccttgt 1188

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154 <210> SEQ ID NO: 4

155 <211> LENGTH: 41

156 <212> TYPE: DNA

157 <213> ORGANISM: Artificial Sequence

159 <220> FEATURE:

160 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer

162 <400> SEQUENCE: 4

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166 <210> SEQ ID NO: 5

167 <211> LENGTH: 42

168 <212> TYPE: DNA

169 <213> ORGANISM: Artificial Sequence

171 <220> FEATURE:

172 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer

174 <400> SEQUENCE: 5

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178 <210> SEQ ID NO: 6

179 <211> LENGTH: 1523

180 <212> TYPE: DNA

181 <213> ORGANISM: Artemisia vulgaris

183 <400> SEQUENCE: 6

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185 tggcttgcat acatggctac atgattcgct ttagacaaca caataaataa tcagcaatat 120

186 ataaagtacc ttcggtactt tgagatagaa agttgtaaaa aaagataatc atacaatata 180

187 atggaaaaac attattttgt tatattgttc accgcagcgt ttgttttcgt ggggtgcagct 240

188 gctcgggctg acattggtga tgagctcgaa gcggtcaat ttaattcaac aaggaggggc 300

189 ttacacgaat gtgcagcaca taacataata gacaagtgtt ggaggtgcaa agctgattgg 360

190 gaaaaaaacc gacaagcatt agccaaatgc gcgcaagggt ttgcaaaggg aacaactggc 420

191 ggattgggag gggaaatcta cgtggtgact gattgttcag atgacaatgc tgcaaattcca 480

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194 ggaagagggtg caaatgttga gatcacttgt ggcggtctca ccattcacaa cgtttgcaat 660
195 gtgatcattc ataacattca catacatgat attaaagtaa ccgaagggtg aattattaag 720
196 gcaacggacg ctaaacagg acatagacat aagagcgacg gagatggat ttgtgttgct 780
197 ggttcttcaa agatatggat cgatcattgc acacttagtc atggtccaga tggccttatt 840
198 gatgtcacgt tgggtagcac agcgttacc atttccaatt gcaaatttag ccatcaccaa 900
199 aaaattctat tactcggagc agacaattca catgtagacg ataaaaaat gcatgtcaca 960
200 gtagcattca acagggtcgc agaagcatgt gatcaaagaa tgccacgatg tgcatttgga 1020
201 tttttccaag ttgttaacaa tgactacacc agctggggaa cgtacgccat tgggtggtagt 1080
202 gccaatccta ctatccttag ccaaggcaac cgattccatg ctccgaatga cccaatgaag 1140
203 aaaaatgtgt tgggtgagggc tgatgcacca catacagagt caatgaagtg gaattggaga 1200
204 tctgagaaaag acttgtaga aaatggagct atattttag catcaggggtg cgacccgcac 1260
205 ctaacccccg aacaaaaaag ccatttgatt ccagctgaac caggatcagc agttcttcaa 1320
206 ctcaccagtt gtgctggcac gctcaaagtc gttcctggaa aaccttgta atagttatca 1380
207 cccacttttt tttttattg ttattagcat tttttatact tgtaggatt gtagtggaat 1440
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209 tcacgttaaa aaaaaaaaaa aaa 1523
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213 <211> LENGTH: 1513
214 <212> TYPE: DNA
215 <213> ORGANISM: Artemisia vulgaris
217 <400> SEQUENCE: 7
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219 gtcattggct tgcatacatg gctacatgat tgcctttaga caacacaata aataatcagc 120
220 aatataataa gtaccttcgg tactttgaga tagaaagttg taaaaaaga taatcataca 180
221 atacaatgga aaacatttat tttgttatat tgttcaccgc agcgtttgtt ttcgtgggtg 240
222 cagctgctcg ggctgacatt ggtgatgagc tcgaagcggc tcaatttaat tcaacaagga 300
223 ggggcttaca cgaatgtgca gcacataaca taatagacaa gtgttgaggg tgcaaagctg 360
224 attgggaaaa aaaccgacaa gcattagcca aatgcgcgca aggttttgca aagggaacaa 420
225 ctggcggatt gggaggggaa atctacgtgg tgactgattg ttcagatgac aatgctgcaa 480
226 atccaaagcc agggacactt cgttgtgggtg tcaccaaga taaaccttg tggtatcatc 540
227 ttaagaaaga tatggtcata aaacttaaac acgagcttgt gataaaciaa gacaagacaa 600
228 ttgatggaag aggtgcaaat gttgagatca cttgtggcgg tctcaccatt cacaacgttt 660
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232 ttattgatgt cacgttgggt agcacagccg ttaccatttc caattgcaaa tttagccatc 900
233 accaaaaaat tctattactc ggagcagaca attcacatgt agacgataaa aaaatgcatg 960
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238 ggagatctga gaaagacttg ttagaaaatg gagctatatt tgtagcatca ggggtgcgacc 1260
239 cgcattcaac cccggaacaa aaaagccatt tgattccagc tgaaccagga tcagcagttc 1320
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241 tatcaccac tttttatttt tattgttatt agcatttttt atacttgta ggattgtagt 1440
242 ggaatgagac attgatagct gcattacaag accattcatc aacatatttt gctaaaaaaa 1500
243 aaaaaaaaaa aaa 1513

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Input Set : A:\sequence listing-biomay.txt

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253 aaaaataaaa ataaaaataa caaagcgagt cattggcttg catacatggc tacatgattc 120
254 gctttagaca acacaataaa taatcagcaa tatataaagt accttcggta ctttgagata 180
255 gaaagtgtga aaaaaagata atcatacaat acaatggaaa aacattattt tgttatattg 240
256 ttcaccgcag cgtttgTTTT cgtgggtgca gctgctcggg ctgacattgg tgatgagctc 300
257 gaagcggctc aatttaattc aacaaggagg ggcttacacg aatgtgcagc acataacata 360
258 atagacaagt gttggagggtg caaagctgat tgggaaaaaa accgacaagc attagccaaa 420
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261 acccaagata aacctttgtg gatcatcttc aagaaagata tggtcataaa acttaaacac 600
262 gagcttggtg taaacaaaga caagacaatt gatggaagag gtgcaaagt tgagatcact 660
263 tgtggcggtc tcaccattca caacgtttgc aatgtgatca ttcataacat tcacatacat 720
264 gatattaaag taacggaagg tggaattatt aaggcaacgg acgctaaacc agggcataga 780
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270 accagctggg gaacgtacgc cattggtggt agcgccaatc ctactatcct tagccaaggc 1140
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273 gctatatttg tagcatcagg gtgcgacccg catctaacc cggaaacaaaa aagccattta 1320
274 attccagctg aaccaggatc agcagttctt caactcacca gttgtgctgg cacgctcaaa 1380
275 tgcgttcttg gaaaaccttg ttaatatgta tcaccactt tttattttta ttgttattag 1440
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277 caaaaaaaaa aaaaaaaaaa 1520
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281 <211> LENGTH: 1535
282 <212> TYPE: DNA
283 <213> ORGANISM: Artemisia vulgaris
285 <400> SEQUENCE: 9
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287 ctacaaaaat tgataaaaat aaaaataaaa ataacaaagc gagtcatagg cttgcataca 120
288 tggctacatg attcgcttta gacaacacaa taaataatca gcaatatata agtaccttc 180
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294 aaatctacgt ggtgactgat tgttcagatg acaatgctgc aaatccaaag ccagggacac 540
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296 taaaacttaa acacgagctt gtgataaaca aagacaagac aattgatgga agaggtgcaa 660
297 atgttgagat cacttggtggc ggtctcacca ttcacaacgt ttgcaatgtg atcattcata 720
298 acattcacat acatgatatt aaagtaaccg aaggtggaat tattaaggca acggacgcta 780

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VERIFICATION SUMMARY

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Input Set : **A:\sequence listing-biomay.txt**

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L:9 M:270 C: Current Application Number differs, Replaced Application Number
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date